CURRICULUM VITAE

Michael Wolf

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University

Department of Economics
University of Zurich
Zürichbergstrasse 14
CH-8032 Zurich, Switzerland
Phone: +41-44 634 5096
E-mail: michael.wolf@econ.uzh.ch
Web: http://www.econ.uzh.ch/faculty/wolf.html

Residence

Tödistrasse 26
CH-8002 Zurich, Switzerland
Phone: +41-78 616 1808

EDUCATION

1991–1996	**Ph.D. in Statistics**, Stanford University, Stanford, U.S.A.
1991–1995	**Master of Science in Statistics**, Stanford University, Stanford, U.S.A.
1988–1991	**Vordiplom in Mathematics**, University of Augsburg, Augsburg, Germany

EMPLOYMENT

2005–present	**Full Professor (Chair in Econometrics and Applied Statistics)**, Department of Economics, University of Zurich, Zurich, Switzerland
2004–2005	**Associate Professor**, Department of Economics and Business, University Pompeu Fabra, Barcelona, Spain
2001–2004	**Assistant Professor**, Department of Economics and Business, University Pompeu Fabra, Barcelona, Spain
1998–2001	**Assistant Professor**, Department of Statistics and Econometrics, University Carlos III, Madrid, Spain
1996–1998	**Adjunct Assistant Professor**, Department of Statistics, University of California, Los Angeles, U.S.A.

ACADEMIC AWARDS AND HONORS

2013	• Keynote speaker, First International Workshop in Financial Econometrics, Natal, Brazil
	• Keynote speaker, 2nd Rimini Time Series Workshop, Rimini, Italy
2012	Keynote speaker, 23rd $(EC)^2$ Conference, Maastricht, Holland
2008	Gumbel Lecture, Cologne, Germany
2003–2007	*"Distinció de la Generalitat per a la Promoció de la Recerca Universitària"* Distinction and Research Grant of the Government of Catalonia
1991	Fulbright Travel Grant

EDITORIAL BOARDS

2014–2016	Associate Editor for *Statistics & Probability Letters*
2004–2007	Associate Editor for *The Annals of Statistics*

BOOKS

1. Politis, D.N., Romano, J.P., and Wolf, M. (1999). *Subsampling.* Springer, New York.

PUBLICATIONS

1. Romano, J.P. and Wolf, M. Resurrecting weighted least squares. *Journal of Econometrics*, forthcoming.

2. Romano, J.P. and Wolf, M. (2016). Efficient computation of adjusted p-values for resampling-based stepdown multiple testing. *Statistics & Probability Letters*, 113:38-40.

3. Ledoit, O. and Wolf, M. (2015). Spectrum estimation: a unified framework for covariance matrix estimation and PCA in large dimensions. *Journal of Multivariate Analysis*, 139:360–384.

4. Wolf, M. and Wunderli, D. (2015). Bootstrap joint prediction regions. *Journal of Time Series Analysis*, 36:352–376.

5. Bell, D.R., Ledoit, O., and Wolf, M. (2014). A new portfolio formation approach to mispricing of marketing performance indicators: an application to customer satisfaction. *Customer Needs and Solutions*, 1:263–276.

6. Romano, J.P., Shaikh, A.M., and Wolf, M. (2014). A practical two-step method for testing moment inequalities. *Econometrica*, 82:1979–2002.

7. Romano, J.P. and Wolf, M. (2013). Testing for monotonicity in expected asset returns. *Journal of Empirical Finance*, 23:93–116.

8. Wolf, M. (2013). Subsampling tests of parameter hypotheses and overidentifying restrictions with possible failure of identification. *International Journal of Approximate Reasoning*, 54:769–792.

9. Ledoit, O. and Wolf, M. (2012). Nonlinear shrinkage estimation of large-dimensional covariance matrices. *Annals of Statistics*, 40:1024–1060.

10. Wolf, M. and Wunderli, D. (2011). Fund-of-funds construction by statistical multiple testing methods. In Scherer, B. and Winston, K., editors, *The Oxford Handbook of Quantitative Asset Management*, pages 116–135. Oxford University Press, Oxford.

11. Ledoit, O. and Wolf, M. (2011). Robust performance hypothesis testing with the variance. *Wilmott Magazine* September, 86–89.

12. Romano, J.P., Shaikh, A.M., and Wolf, M. (2011). Consonance and the closure method in multiple testing. *International Journal of Biostatistics* 7, Issue 1, Article 12.

13. Romano, J.P. and Wolf, M. (2010). Balanced control of generalized error rates. *Annals of Statistics*, 38:598–633.

14. Romano, J.P., Shaikh, A.M., and Wolf, M. (2010). Multiple testing. *The New Palgrave Dictionary of Economics*, Online Edition. Edited by S.N. Durlauf and L.E. Blume. Palgrave Macmillan, 2010.

15. Romano, J.P., Shaikh, A.M., and Wolf, M. (2010). Hypothesis testing in econometrics. *Annual Review of Economics*, 2:75–104.

16. Bittman, R.M., Romano, J.P., Vallarino, C., and Wolf, M. (2009). Optimal testing of multiple hypotheses with common effect direction. *Biometrika*, 96:399–410.

17. Romano, J.P., Shaikh, A.M., and Wolf, M. (2008). Control of the false discovery rate under dependence using the bootstrap and subsampling. (Invited paper with discussion.) *TEST*, 17:417–442.

18. Ledoit, O. and Wolf, M. (2008). Robust performance hypothesis testing with the Sharpe ratio. *Journal of Empirical Finance*, 15:850–859.

19. Romano, J.P., Shaikh, A.M., and Wolf M. (2008). Formalized data snooping based on generalized error rates. *Econometric Theory*, 24:404–447.

20. Afshartous, D. and Wolf, M. (2007). Avoiding data snooping in multilevel and mixed effects models. *Journal of the Royal Statistical Society, Series A*, 170:1035–1059.

21. Romano, J.P. and Wolf, M. (2007). Control of generalized error rates in multiple testing. *Annals of Statistics*, 35:1378–1408.

22. Wolf, M. (2007). Resampling vs. shrinkage for benchmarked managers. *Wilmott Magazine* Volume 1, 76–81.

23. Romano, J.P. and Wolf, M. (2006). Improved nonparametric confidence intervals in time series regressions. *Journal of Nonparametric Statistics*, 18:199-214.

24. Romano, J.P. and Wolf, M. (2005). Stepwise multiple testing as formalized data snooping. *Econometrica*, 73:1237–1282.

25. Gonzalo, J. and Wolf, M. (2005). Subsampling inference in threshold autoregressive models. *Journal of Econometrics*, 127:201–224.

26. Romano, J.P. and Wolf, M. (2005). Exact and approximate stepdown methods for multiple hypothesis testing. *Journal of the American Statistical Association*, 100:94–108.

27. Ledoit, O. and Wolf M. (2004). Honey, I shrunk the sample covariance matrix. *Journal of Portfolio Management*, 30(4):110–119.

28. Politis, D.N., Romano, J.P., and Wolf M. (2004). Inference for autocorrelations in the possible presence of a unit root. *Journal of Time Series Analysis*, 25:251–263.

29. Kokoszka, P. and Wolf, M. (2004). Subsampling the mean of heavy-tailed dependent observations. *Journal of Time Series Analysis*, 25:217–234.

30. Ledoit, O. and Wolf M. (2004). A well-conditioned estimator for large-dimensional covariance matrices. *Journal of Multivariate Analysis*, 88:365–411. (Editor's Choice)

31. Ledoit, O. and Wolf, M. (2003). Improved estimation of the covariance matrix of stock returns with an application to portfolio selection. *Journal of Empirical Finance*, 10:603–621.

32. Ledoit, O., Santa-Clara, P., and Wolf, M. (2003). Flexible multivariate GARCH modeling with an application to international stock markets. *Review of Economics and Statistics*, 85:735–747.

33. Ledoit, O. and Wolf, M. (2002). Some hypothesis tests for the covariance matrix when the dimension is large compared to the sample size. *Annals of Statistics*, 30:1081–1102.

34. Romano, J.P. and Wolf, M. (2002). Explicit nonparametric confidence intervals for the variance with guaranteed coverage. *Communications in Statistics – Theory and Methods* 31:1231–1250.

35. Romano, J.P. and Wolf, M. (2001). Subsampling intervals in autoregressive models with linear time trend. *Econometrica*, 69:1283–1314.

36. Politis, D.N., Romano, J.P., and Wolf, M. (2001). On the asymptotic theory of subsampling. *Statistica Sinica*, 11:1105–1124.

37. Delgado, M., Rodríguez-Poo, J., and Wolf, M. (2001). Subsampling inference in cube root asymptotics with an application to Manski's maximum score estimator. *Economics Letters*, 73:241–250.

38. Politis, D.N., Romano, J.P., and Wolf, M. (2000). Subsampling, symmetrization, and robust interpolation. *Communications in Statistics – Theory and Methods* 29:1741–1758.

39. Romano, J.P. and Wolf, M. (2000). Finite-sample nonparametric inference and large-sample efficiency. *Annals of Statistics* 28:756–778.

40. Romano, J.P. and Wolf, M. (2000). A more general Central Limit Theorem for m-dependent random variables with unbounded m. *Statistics and Probability Letters*, 47:115–124.

41. Wolf, M. (2000). Stock returns and dividend yields revisited: A new way to look at an old problem. *Journal of Business and Economic Statistics*, 18:18–30.

42. Romano, J.P. and Wolf, M. (1999). Inference for the mean in the heavy-tailed case. *Metrika*, 50:55–69.

43. Politis, D.N., Romano, J.P., and Wolf, M. (1999). Weak convergence of dependent empirical measures with application to subsampling and confidence bands. *Journal of Statistical Planning and Inference*, 79:179–191.

44. Politis, D.N., Romano, J.P., and Wolf, M. (1997). Subsampling for heteroskedastic time series. *Journal of Econometrics*, 81:281–317.

AD HOC REVIEWING (Selective List)

- American Economic Review
- Annals of Applied Probability
- Annals of Applied Statistics
- Annals of Statistics
- Annals of the Institute of Statistical Mathematics
- Bernoulli
- Biometrika
- Computational Statistics & Data Analysis
- Econometric Reviews
- Econometrics Journal
- European Journal of Finance
- Management Science
- Journal of the American Statistical Association
- Journal of Applied Econometrics
- Journal of Banking and Finance
- Journal of Business and Economic Statistics
- Journal of Econometrics
- Journal of Empirical Finance
- Journal of Machine Learning

- Journal of Multivariate Analysis
- Journal of Nonparametric Statistics
- Journal of Risk
- Journal of Statistical Planning and Inference
- Journal of Time Series Analysis
- Oxford Bulletin of Economics and Statistics
- Review of Economics and Statistics
- Review of Economic Studies
- Review of Financial Studies
- SIAM Journal on Matrix Analysis and Applications
- Statistica Sinica
- Statistical Science
- Statistics & Probability Letters
- Scandinavian Journal of Statistics
- Science
- TEST

CONFERENCE PRESENTATIONS

- 9th Annual SoFiE Conference, Hong Kong (2016)
- Vietnam International Conference in Finance, Da Nang, Vietnam (2016)
- Econometrics Summer Workshop, Warwick, UK (2016)
- The 9th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2016)
- Financial Econometrics Workshop, Rio de Janeiro, Brazil (2015)
- Econometric Study Group Bristol Conference, Bristol, UK (2015)
- 2nd Vienna Workshop on High-Dimensional Time Series in Macroeconomics and Finance 2015, Vienna, Austria (2015)
- Workshop on Time Series Analysis in Macro and Finance, Barcelona, Spain (2015)
- The 8th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2015)
- 11th International Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius, Lithuania (2014)
- 2nd Conference of the International Society for NonParametric Statistics, Cádiz, Spain (2014)
- 10th International Symposium on Econometric Theory and Applications (SETA 2014), Taipei, Taiwan (2014)
- Second NUS-Stanford Workshop in Quantitative Finance: Statistical Issues, Singapore (2014)
- The 7th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2014)
- cemmap Workshop "High-Dimensional Econometric Models", London, UK (2013)
- First International Workshop in Financial Econometrics, Natal, Brazil (2013); Keynote Speaker

- 59th ISI World Statistics Congress, Hong Kong (2013)
- 29th European Meeting of Statisticians, Budapest, Hungary (2013)
- 2nd Rimini Time Series Workshop, Rimini, Italy (2013); Keynote Speaker
- 6th Annual SoFiE Conference, Singapore (2013)
- 1st Vienna Workshop on High-Dimensional Time Series in Macroeconomics and Finance 2013, Vienna, Austria (2013)
- Marie Curie ITN – Conference on Financial Risk Management & Risk Reporting, Konstanz, Germany (2013)
- Humboldt-Copenhagen Conference 2013, Berlin, Germany (2013)
- The 6th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2013)
- 23rd $(EC)^2$ Conference, Maastricht, Holland (2012); Keynote Speaker
- Computing & Statistics (ERCIM 2012), Oviedo, Spain (2012)
- Workshop on "New Developments in Econometrics and Time Series", Rome, Italy (2012)
- ESEM 2012, Malaga, Spain (2012)
- IMS Program "Random Matrix Theory and its Applications II", Singapore (2012)
- 2012 FMA Asian Conference, Phuket, Thailand (2012)
- 1st Conference of the International Society for NonParametric Statistics, Chalkidiki, Greece (2012)
- SMTDA 2012, Chania, Greece (2012)
- Workshop on "Uncertainty and Forecasting in Macroeconomics", Eltville, Germany (2012)
- CIREQ Econometrics Conference "High-Dimensional Problems in Econometrics", Montreal, Canada (2012)
- 9th International Conference on Computational Management Science, London, U.K. (2012)
- The 5th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2012)
- MCP Conference 2011, Washington D.C., U.S.A. (2011)
- AFE 2011 Conference, Samos, Greece (2011)
- 2011 FMA European Conference, Porto, Portugal (2011)
- The 4th Conference of Thailand Econometric Society, Chiang Mai, Thailand (2011)
- The XXVth International Biometric Conference, Florianópolis, Brazil (2010)
- ATINER Mathematics 2010, Athens, Greece (2010)
- SMTDA 2010, Chania, Greece (2010)
- The 3rd Conference of Thailand Econometric Society, Chiang Mai, Thailand (2010)
- Computational and Financial Econometrics (CFE'09), Limassol, Cyprus (2009)
- LQG Spring Conference, London, U.K. (2009)
- Asset Management Forum, Zurich, Switzerland (2008)
- Forecasting in Rio, Rio de Janeiro, Brazil (2008)
- Computational and Financial Econometrics (CFE'08), Neuchâtel, Switzerland (2008)
- Workshop on "Bootstrap and Time Series", Kaiserslautern, Germany (2008)
- IQPC – Hedge Fund Conference, Barcelona, Spain (2007)
- MCP Conference 2007, Vienna, Austria (2007)

- Hedge 2006, London, U.K. (2006)
- Mathematical and Statistical Methods for Insurance and Finance, Salerno, Italy (2006)
- IMS Annual Meeting, Rio de Janeiro, Brazil (2006)
- Exploratory Workshop on Specification Testing, Santander, Spain (2005)
- IASC: Computational Statistics & Data Analysis, Limmasol, Cyprus (2005)
- Statistics for Dependent Data, Paris, France (2005)
- Stochastic Finance 2004, Lisbon, Portugal (2004)
- Joint Statistical Meetings, San Francisco, U.S.A. (2003)
- New Frontiers in Financial Volatility Modeling, Florence, Italy (2003)
- EUMOptFin I, Semmering, Austria (2003)
- ESEM 2002, Venice, Italy (2002)
- CLAPEM, La Habana, Cuba (2001)
- Resampling Methods in Econometrics, Montreal, Canada (2001)
- European Meeting of Statisticians, Funchal, Madeira (2001)
- ESEM 1999, Santiago de Compostela, Spain (1999)

INVITED SEMINARS

- Aarhus University, Aarhus, Denmark
- Cambridge University, Cambridge, U.K.
- Chulalongkorn University, Bangkok, Thailand
- DIW, Berlin, Germany
- Erasmus University, Rotterdam, Holland
- ETHZ, Zurich, Switzerland
- Fundação Getúlio Vargas, Rio de Janeiro, Brazil
- Humboldt Universität zu Berlin, Berlin, Germany
- Imperial College, London, U.K.
- Institut für Höhere Studien, Vienna, Austria
- Nanyang Technological University, Singapore
- Oxford University, Oxford, U.K.
- Pontifícia Universidade Católica, Rio de Janeiro, Brazil
- Singapore Management University, Singapore
- Stanford University, Stanford, U.S.A.
- Technische Universität Wien, Vienna, Austria
- Tilburg University, Tilburg, Holland
- Tinbergen Institute, Amsterdam, Holland
- Universidad Carlos III, Madrid, Spain
- Universidad Rey Juan Carlos, Madrid, Spain
- Universidad de Zaragoza, Zaragoza, Spain
- Università Bocconi, Milan, Italy
- Università di Bologna, Bologna, Italy

- Università Tor Vergata, Rome, Italy
- Universitat Pompeu Fabra, Spain
- Universität Augsburg, Augsburg, Germany
- Universität Bonn, Bonn, Germany
- Universität Dortmund, Dortmund, Germany
- Universität Göttingen, Göttingen, Germany
- Universität Hamburg, Hamburg, Germany
- Universität Konstanz, Konstanz, Germany
- Universität Mannheim, Mannheim, Germany
- Universität Regensburg, Regensburg, Germany
- Universität Wien, Vienna, Austria
- Université Catholique de Louvain, Louvain-la-Neuve, Belgium
- Université de Genève, Geneva, Switzerland
- Université Libre de Bruxelles, Brussels, Belgium
- Université de Toulouse, Toulouse, France
- University College London, London, UK
- University of California, Los Angeles, U.S.A.
- University of California, San Diego, U.S.A.
- University of California, Riverside, U.S.A.
- University of Miami, Miami, U.S.A
- University of Pennsylvania, Philadelphia, U.S.A.
- University of Science and Technology, Hong Kong, China
- University of Southern California, Los Angeles, U.S.A.
- University of York, York, U.K.

TEACHING EXPERIENCE

REGULAR COURSES

- University of Zurich, Ph.D. courses
    - Econometrics for Research Students, Part I
    - Econometrics for Research Students, Part II
- University of Zurich, graduate courses
    - Advanced Statistics
    - Nonparametric Methods
    - Time Series Analysis
- University of Zurich, undergraduate courses
    - Statistics
    - Introduction to Empirical Research in Economics
- University Pompeu Fabra, Ph.D. courses

- – Mathematical Methods
- Universitat Pompeu Fabra, MBA courses
  - – Statistics

- University Pompeu Fabra, undergraduate courses
  - – Econometrics I
  - – Statistics
- University Carlos III, Ph.D. courses
  - – Resampling Methods
- University Carlos III, undergraduate courses
  - – Econometrics I
  - – Nonparametric Statistics
  - – Statistics III
  - – Time Series Methods II
- UCLA, Ph.D. courses
  - – Empirical Research in Finance (joint with Prof. Olivier Ledoit)
- UCLA, undergraduate courses
  - – Statistics 50
  - – Statistics 152C
  - – Statistics 154A, 154B

INVITED COURSES

- Bocconi University, undergraduate courses
  - – Data Analysis
- IE Business School, MBA courses
  - – Quantitative Methods for Business
- Singapore Management University, Ph.D. courses
  - – Financial Econometrics
- Stanford University, undergraduate courses
  - – Introduction to Statistical Inference
- University of Sankt Gallen, Ph.D. courses
  - – Resampling Methods
- University Tor Vergata, Ph.D. courses
  - – Resampling Methods

CONSULTING EXPERIENCE

- Credit Suisse, London, U.K.
- FX Cube Hedge Fund, New York, U.S.A.
- German Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (BMFSFJ), Berlin, Germany
- German Federal Ministry of Finance (BMF), Berlin, Germany
- Philip Morris International, Lausanne, Switzerland
- Sande Stewart Television, Los Angeles, U.S.A.
- SUISA, Zurich, Switzerland
- Takeda Pharmaceuticals, Chicago, U.S.A.